## REMARKS

By this amendment, applicants have amended the specification to insert appropriate headings therein. Applicants have also amended the claims to more clearly define their invention. In particular, the claims have been amended to delete the reference numerals therefrom and to better define the invention. Claim 1 has been amended to recite that the internal temperature of at least two regions is monitored within the filter between the inflow face and the outflow face. See, e.g., Figure 1 and the description thereof in Applicants' specification. Claim 8 has been amended to recite that the at least two temperature sensors are located inside the filter between the inflow face and the outflow face and to recite the inclusion of a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to temperatures measured by the at least two temperature sensors. See, e.g., Figures 2 and 4 and the description thereof in Applicants' specification. Claims 13-19 have been added to define further aspects of the invention.

In view of the foregoing amendments to the specification, reconsideration and withdrawal of the objection to the disclosure at the top of page 2 of the Office Action are requested.

Claims 1-12 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,988,361 to van Nieuwstadt et al. Applicants traverse this rejection and request reconsideration thereof.

The present invention relates to a method and device for regenerating a particle filter. According to the method of the present invention, the internal temperature of at least two regions within the filter between the inflow face and the outflow face is monitored. Likewise, according to the device of the present invention,

at least two temperature sensors are located inside the filter between the inflow face and the outflow face. According to the method of the present invention, as set forth in claim 1, the oxygen level of the exhaust is reduced when at least one of the temperatures monitored is greater than a critical temperature, and the oxygen level of the exhaust is increased to continue filter regeneration when all of the temperatures monitored are less than the critical temperature. The device of the present invention and includes a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to temperatures measured by the at least two temperature sensors.

In van Nieuwstadt et al., the disclosed system comprises a Diesel Particles Filter (DPF) and a Lean NOx (LNT). This system also comprises a first temperature sensor and a first UECO sensor (33), both located upstream the inflow face of the DPF. A second temperature sensor (30) as well as a second UEGO sensor (36) are located downstream of the outflow face of the DPF and upstream of the inflow face of the LNT.

As better explained at column 6, line 20 to column 7, line 2, the oxygen content of the gas that exits the DPF 26 is lower than the oxygen content entering the DPF (soot combustion removes oxygen). Moreover, the low level of oxygen concentration into the DPF results in higher concentration of CO out of the DPF. As CO acts as a reductant for desulfation of the LNT, the system must adjust the oxygen concentration for obtaining the CO level that comes from the DPF 26. The oxygen sensor (33) upstream of the DPF is used to control the DPF regeneration rate by metering the oxygen flow of the gases entering the DPF. If the oxygen measured by the UEGO sensor 35 is too high, the oxygen content of the gas

entering the DPF is reduced, increasing the flow of CO reductant before flowing into the LNT.

The control strategy as described at column 6, lines 51-64 is directed to the monitoring of the temperature (sensor 30) of the gas exiting the DPF and reduces the DPF 26 inlet oxygen concentration (sensor 28) if this temperature becomes too high. The optimal oxygen flow into the DPF 26 is therefore a trade-off between DPF temperature, soot burn rate, and $H_2S$ release by the LNT 72.

Thus, according to van Nieuwstadt et al., the internal temperature of at least two regions within the filter, i.e., between the inflow face and the outflow face, it is not monitored. Rather, in the van Nieuwstadt et al., the temperatures upstream and downstream of the inflow and outflow faces are monitored by temperature sensors 28 and 30, respectively. The van Nieuwstadt et al. patent does not disclose at least two temperature sensors located inside the filter between the inflow face and the outflow face. For these reasons alone, the van Nieuwstadt et al. patent does not anticipate the presently claimed regeneration method and regeneration device.

Moreover, with respect to the presently claimed method, the van Nieuwstadt et al. does not disclose the combination of the last two steps of the method step forth in claim 1. That is, the van Nieuwstadt et al. patent does not describe the steps of the present invention including decreasing the oxygen level of the exhaust gases, when the monitored temperature is a critical temperature for stopping (or for slowing) the DPF regeneration and then, when all monitored temperatures are less than the critical temperature, to increase he oxygen level of the exhaust gases for starting again (or for the continuing) the DPF regeneration.

For the foregoing reasons, the presently claimed invention is patentable over van Nieuwstadt et al.

Claims 1-4 and 6-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,651,524 to Brighton. Applicants traverse this rejection and request reconsideration thereof.

The Brighton patent discloses an exhaust processor having a particulate trap regeneration system. A substrate temperature monitor system 28 is shown in Figure 1 to monitor the progress of the burn along the length of the substrate 110 during both the flame ignition and the burn stages of the regeneration cycle. A plurality of thermocouples 125 are disclosed to be installed at various points throughout the substrate 110. However, the Brighton patent does not disclose the method of the present invention including reducing the oxygen level of the exhaust gases when at least one of the temperatures monitored is greater than the critical temperature, and increasing the oxygen level of the exhaust gases to continue filter regeneration when all of the temperatures monitored are less than the critical temperature. While the Examiner alleges the Brighton patent to disclose these steps at column 7, lines 10-67 and column 8, lines 1-16, no such disclosure can be found by the undersigned. Should the Examiner continue this rejection, the Examiner is respectfully requested to point out where the claimed method steps are disclosed in Brighton.

Nor does the Brighton patent disclose the regeneration device presently claimed including a control unit for controlling an oxygen level of exhaust gases passing through the filter during regeneration in response to the temperatures measured by at least two temperature sensors.

Thus, the Brighton patent does not anticipate the presently claimed invention.

Applicants note the Examiner has cited a number of documents as being pertinent to applicants' disclosure. However, since none of these documents has been applied in rejecting the claims formerly in the application, further discussion of these documents is deemed unnecessary.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.46212X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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